~~Secret~~

10189

DIRECTORATE OF
INTELLIGENCE

Intelligence Memorandum

The 1970 Soviet Defense Budget in Perspective:
Trends in Spending for Defense and Space Since 1960

~~Secret~~

SR IM 70-1
January 1970

Copy No

WARNING

This document contains information affecting the national defense of the United States, within the meaning of Title 18, sections 793 and 794, of the US Code, as amended. Its transmission or revelation of its contents to or receipt by an unauthorized person is prohibited by law.

~~SECRET~~

CENTRAL INTELLIGENCE AGENCY
Directorate of Intelligence
12 January 1970

INTELLIGENCE MEMORANDUM

The 1970 Soviet Defense Budget in Perspective: Trends in Spending for Defense and Space Since 1960

Introduction

On 15 December Soviet Minister of Finance Garbuzov announced a planned 1970 defense budget of 17.9 billion rubles--about a one percent increase over the planned budget for 1969. The wide attention given the annual Soviet budget announcement in the Western press stimulates a broad range of questions on the economic aspects of the Soviet defense and space effort. This memorandum addresses many of these questions.

The Soviets do not themselves provide useful data on their spending for defense and space programs. Each year they release a single ill-defined budget figure for defense and one for "science" (which includes space), in striking contrast to the voluminous detail published on virtually all aspects of the US defense and space budgets.

To overcome this problem, the Central Intelligence Agency has developed a direct costing method which draws on all sources of information to build up economic data relating to Soviet defense and space outlays. (The total Soviet space effort is included in the analysis because the administration and funding of both "civil" and "military" programs are so intimately related in the USSR.) The available intelligence information has made it possible

Note: This memorandum was produced solely by CIA. It was prepared by the Office of Strategic Research and coordinated with the Office of Economic Research.

to measure, aggregate, and compare the sizes of the entire range of Soviet weapon programs and forces. This provides an appreciation of how the economic implications of these programs may influence Soviet policy and planning.

This memorandum outlines the methodology used to develop estimates of Soviet spending for defense and space programs and presents a description of the main trends in spending. The broader economic aspects of defense and space programs also are considered by relating the expenditures to the general Soviet economic situation. Some of the possible implications of this relationship for Soviet policy are examined.

A summary statement and general conclusions are presented beginning on page 21.

* * * *

Contents

The Announced Soviet Defense Budget

The USSR recently published a planned defense budget for 1970 of 17.9 billion rubles. This is a modest increase of only 0.2 billion rubles, or about one percent, above the announced spending planned for 1969--a marked departure from the more sizable increases proposed for the past few years.

The single figure that constitutes the announced Soviet "defense" budget has both a political and an economic function. It serves to inform the Soviet public, the party, and government cadres of the leadership's intentions with regard to the allocation of resources. The changes in the size of the defense budget from year to year are probably also intended to communicate to the world at large the stance the leadership wishes to emphasize in its conduct of foreign affairs at the time.

The small increase in defense spending announced for 1970, for example, is consistent with the image of moderation that the Soviets have projected at the preliminary strategic arms limitation talks in Helsinki.

The Soviets have never published an official posture statement like that presented each year to the Congress by the Secretary of Defense. Moreover, they have never provided a detailed explanation of what the published budget figure covers. Analysis of the available evidence indicates that it covers most direct expenditures for military weapons procurement and for the operation and maintenance of the forces in the field. It probably also includes some expenditures for military aid to other nations, for stockpiling military commodities, and for some aspects of the military R&D and space effort.

On the other hand, most of the large and growing costs of military-related research and development and both military and civil space are covered by the announced expenditures for "science." These science expenditures cover nonmilitary matters as well.

The USSR has announced planned "science" expenditures for 1970 of 10.2 billion rubles.* This represents a 13 percent increase over the expenditures planned for 1969. In announcing the 1970 plan figure, however, the Soviets stated that it would result in a 9.3 percent increase over 1969 spending. This implies that actual spending in 1969 was higher than planned. The increases over the past few years probably have been devoted almost exclusively to military and space programs.** Recent speeches by Soviet leaders which reflect a growing concern about the increasing gap between the industrial technology of the USSR and the developed West suggest that a larger share of the 1970 increase may be earmarked for civil programs.***

---

* *Soviet statements and published economic data indicate that the announced expenditures for science do not include most capital investment outlays for research and development facilities. These investment expenditures probably are included in the budget category Financing the National Economy. The available data suggest that for the past few years they have averaged roughly a billion rubles.*

** *SR IR* Soviet Expenditures for Research and Development, *November 1969, contains a full discussion of estimated Soviet spending for both military and civil research and development and space from 1960 through 1968.*

*** *ER IR* , The Technological Gap: The USSR vs the US and Western Europe, *June 1969, contains a full discussion of the relative levels of technology of the USSR and the West.*

It is not clear how seriously the Soviet leaders themselves regard the announced defense budget. In every year since 1963 the Soviets have said that actual expenditures have been exactly the same as those planned and announced for the year. Given the extraordinary complexity of budget planning in large, modern military establishments, it is hard to believe that the planners of the Soviet Union could arrange such a perfect match between planned and actual expenditures year after year. The announced budget is probably not a reliable indicator either of the amount of total Soviet spending for military-related activities or of changes in the level of effort from year to year.

Methodology

The estimates of Soviet defense and space spending contained in this memorandum are developed for the most part on the basis of a *direct costing* methodology. Judgments as to the *numbers* of weapons and forces are based chiefly on what is observed. These numbers are then multiplied by estimates of what they would *cost* in *rubles* and in *dollars*. Finally, the results are summed into totals and subtotals using expenditure categories similar to the ones used by the Department of Defense.

The available intelligence information has made it possible to develop a comprehensive and highly detailed physical data base for the costing process. The data base includes such information as the deployment levels of the Soviet strategic attack, strategic defense, and general purpose forces; the production schedules for major weapons and military equipment items; and the manning requirements of the forces.

In effect, this work amounts to building the Soviet military budget--line item by line item--from the base up. In fact, the job is done twice, once in rubles and once in dollars. Separate calculations are necessary because no single ruble-dollar conversion factor can accurately reflect the purchasing power equivalents for all of the different types of expenditures that make up total defense spending.

If the official exchange rate were applied to the ruble calculation of total Soviet defense and space spending, for example, it would provide a grossly understated view of the magnitude of the Soviet effort.

The estimates made in *rubles* show how the levels and trends in the costs of individual programs would look and compare with each other from the point of view of Soviet defense planners. The ruble estimates also provide a Soviet view of defense and space spending as a whole and how it relates to other Soviet economic activity--e.g., investment programs for economic growth and programs aimed at improving the lot of the consumer.

The expenditure estimates expressed in *dollars* provide an appreciation of the size of Soviet defense programs in terms that are familiar to US planners and policy makers, and they make it possible to compare Soviet expenditures with US programs.

The technique of direct costing is used to estimate Soviet defense spending for *investment* and for *operating*. Investment expenditures include outlays for procurement of new weapons and equipment, and for construction of facilities. Operating expenditures include outlays for personnel (such as pay and allowances and food) and operation and maintenance (such as spare parts and POL).

To estimate total Soviet spending for *military research, development, test, evaluation, and all space* (RDTE&S), however, direct costing cannot be used. Although some programs--notably space--can be directly costed, there is not enough information on all individual R&D programs to permit a program-by-program accumulation of expenditures which would yield a reliable total. Fortunately, the Soviets have published a substantial amount of information--both statistical data and descriptive literature--on their spending for scientific activities. This provides the basis for estimates of Soviet spending for RDTE&S that correspond quite closely in concept

to US spending by the National Aeronautics and Space Administration as well as RDT&E funding by the Department of Defense and the Atomic Energy Commission.

Validity of Expenditure Estimates

The validity of the estimates of Soviet military costs depends on the reliability of the underlying physical data base, the accuracy of the prices applied to that base, and the time frame being considered. The physical data base on forces and weapons reflects the combined collection and analytical efforts of the Intelligence Community.

The price and cost factors are known with less certainty--many are necessarily derived only from analogous US data and experience--but they are probably reasonably accurate. Naturally, the degree of confidence in the validity of the estimates decreases as they go further into the future.

Trends in Soviet Defense and Space Expenditures

Total Soviet spending for defense and space is expected to reach a record level of over 22 billion rubles ($67 billion*) in 1970, some 3 to 4 percent higher than in 1969. Increases in spending for strategic defense and RDTE&S programs are the major causes of the rise in total expenditures, as expenditures for other missions are expected to remain at about their 1969 levels.

The 1970 increase extends the trend of overall growth which is the dominant feature of estimated

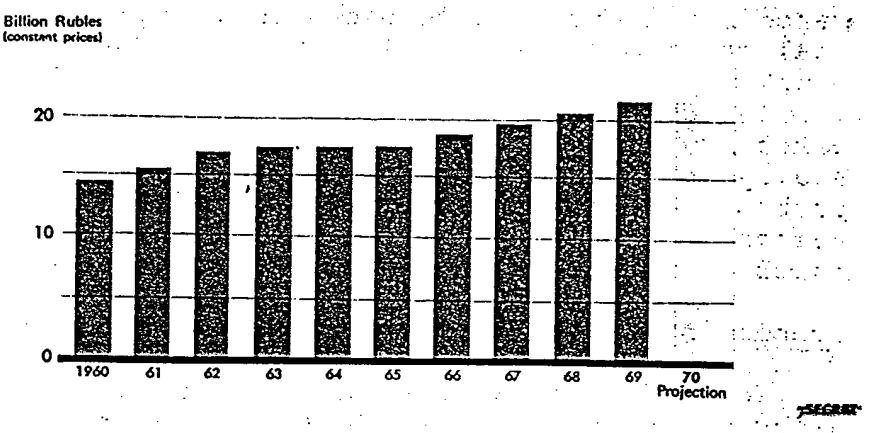
---

* *The dollar figures (appearing in parentheses after the rubles) are approximations of what it would cost in the US to purchase and operate the estimated Soviet programs. For further details see pages 13-14.*

total Soviet spending during the Sixties (see Figure 1). Total expenditures increased in this period from 14.7 billion rubles ($46.5 billion) in 1960 to 21.6 billion rubles ($65.0 billion) in 1969, a rise of about 45 percent. This growth reflects major efforts by the USSR to upgrade its strategic forces and to modernize and restructure its general purpose forces through deployment of new weapon systems and through growing programs of research and development directed toward continual improvement of these forces.

Figure 1

Estimated Total Soviet Expenditures for Defense and Space, 1960-1970



The steady rise in expenditures during the Sixties is a marked change from the Fifties. During that decade, Soviet defense and space outlays remained relatively stable as substantial cutbacks in the general purpose forces tended to offset the rising trends in outlays for strategic forces and RDTE&S programs.

Within the totals, there are also substantial differences between the Fifties and the Sixties. The shift in emphasis from conventional armament toward advanced weaponry is strongly reflected in the changing mix in weapons procurement. During the Fifties, spending for the procurement of advanced systems--missiles, electronic equipment, and nuclear weapons--while growing rapidly, averaged only 20 percent of total procurement for the

decade. In the Sixties, these systems averaged almost 60 percent of total procurement.

Large cutbacks in general purpose forces starting in 1953 caused a steady decline in total operating costs throughout the Fifties. This trend was halted in 1960, and since then the cost of operating the increasingly complex military establishment has been climbing (see Figure 2, page 10). The estimated 9.0 billion rubles ($37.1 billion) required for operating costs in 1969 is about 2.2 billion rubles ($8.4 billion) higher than the 1960 level. The current level of operating costs is approximately the same as that required for the much more manpower-intensive Soviet forces of the middle Fifties, when there were over a million more men in uniform.

Soviet emphasis on military R&D and on space programs is the single most important factor contributing to the growth in total defense and space expenditures during the Sixties. RDTE&S spending grew at an average annual rate of 13 percent and in 1969 accounted for about one-third of total spending on defense-related activities, almost twice the share in 1960. This rapid growth reflects not only the increasing complexity of advanced weapon systems, but also a willingness to trade off, at least to some degree, current deployment of existing systems for future deployment of more effective systems.

Even if the Soviets are looking for an agreement with the US to limit the deployment of strategic weapons, they cannot plan for it at this stage and they almost certainly will continue to develop new systems to keep their future strategic options open. For example, development programs for improved ABM systems and multiple warhead ICBM systems are continuing.

decade. In the Sixties, these systems averaged almost 60 percent of total procurement.

Large cutbacks in general purpose forces starting in 1953 caused a steady decline in total operating costs throughout the Fifties. This trend was halted in 1960, and since then the cost of operating the increasingly complex military establishment has been climbing (see Figure 2, page 10). The estimated 9.0 billion rubles ($37.1 billion) required for operating costs in 1969 is about 2.2 billion rubles ($8.4 billion) higher than the 1960 level. The current level of operating costs is approximately the same as that required for the much more manpower-intensive Soviet forces of the middle Fifties, when there were over a million more men in uniform.

Soviet emphasis on military R&D and on space programs is the single most important factor contributing to the growth in total defense and space expenditures during the Sixties. RDTE&S spending grew at an average annual rate of 13 percent and in 1969 accounted for about one-third of total spending on defense-related activities, almost twice the share in 1960. This rapid growth reflects not only the increasing complexity of advanced weapon systems, but also a willingness to trade off, at least to some degree, current deployment of existing systems for future deployment of more effective systems.

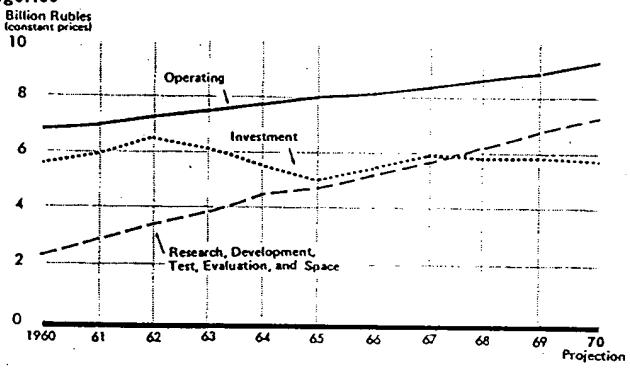
Even if the Soviets are looking for an agreement with the US to limit the deployment of strategic weapons, they cannot plan for it at this stage and they almost certainly will continue to develop new systems to keep their future strategic options open. For example, development programs for improved ABM systems and multiple warhead ICBM systems are continuing.

Figure 2

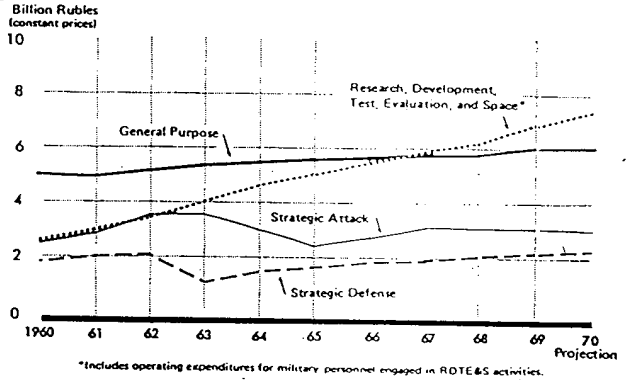
Estimated Soviet Expenditures for Defense and Space

1960-1970

Resource Categories



Major Missions



*Includes operating expenditures for military personnel engaged in RDTE&S activities.

Strategic Forces

Soviet expenditures for strategic forces--offense and defense combined--averaged more than a quarter of total Soviet defense and space spending in the Sixties. Since 1960 a greater effort has been devoted to systems for strategic attack than to systems for strategic defense, but spending for the attack forces has fluctuated more from year to year than it has for strategic defense (see Figure 2).

During the early Sixties, expenditures for strategic attack (excluding RDT&E) increased rapidly and reached a peak in 1962 when the Soviets were simultaneously deploying large MRBM and IRBM forces and second generation ICBMs. With the completion of these programs, spending for strategic attack declined. By 1966 the leading edge of expenditures for the deployment of SS-9 and SS-11 ICBMs and the Y class ballistic missile submarine had begun to reverse the downward trend.

Estimated expenditures for strategic defense forces (excluding RDT&E) remained fairly stable during the Sixties at about 1.5 billion to 2.0 billion rubles ($4.5 billion to $6.0 billion). They accounted for about 10 percent of total Soviet spending for defense and space. This high level supported large-scale deployment of surface-to-air missile systems, an extensive control and warning network, and a large number of advanced fighter interceptors. Spending for ABM deployment in the Sixties accounted for less than 5 percent of strategic defense outlays or less than half a percent of total Soviet military spending during the period.

General Purpose Forces

Despite the high priority the Soviets have placed on developing strategic capabilities, their expenditures for the general purpose forces (excluding RDT&E) have remained higher than for any other major force element (paralleling the US experience). The

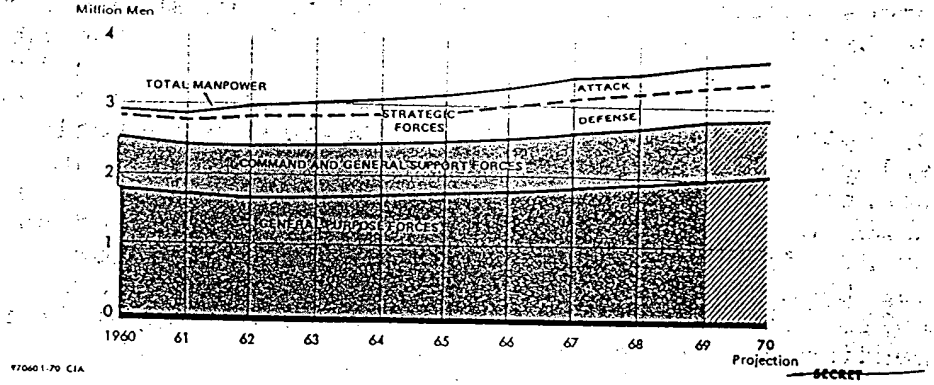
relatively stable level of spending of about 5 billion to 6 billion rubles ($17 billion to $19 billion) averaged about one-third of total spending in the Sixties.

Ground forces have generally accounted for about 50 percent of total spending for the mission, naval forces about 30 percent, and tactical aviation and military transport aviation each about 10 percent.

The importance of general purpose forces in the total Soviet military establishment appears even greater when viewed in manpower terms. Figure 3 shows trends in total military manpower and in the distribution by major missions. From 1960 to 1969, total Soviet military manpower increased from about 3 million to about 3.7 million and no substantial change in 1970 is expected. Throughout this period, the general purpose forces have accounted for about 55 to 60 percent.

Estimated Soviet Military Manpower, 1960-1970

Figure 3



The substantial level of funding for the general purpose forces has allowed the Soviets to move steadily toward a balanced mixture of forces capable of responding to a broad range of military contingencies. Particular emphasis during recent years has been

placed on achieving an improved ASW capability and on augmenting forces along the Sino-Soviet border.

Comparisons of US and USSR Spending for Defense and Space

Comparisons of any economic measures between countries present difficult conceptual problems because of the use of different currencies and the differences in relative prices and outputs of the economies involved. This is especially true in comparing defense expenditures of the US and the USSR. As a result, such comparisons can only be viewed as approximations and not as precise measures.

The comparisons of defense and space spending presented here employ *dollar* measures of Soviet spending that are approximations of *what it would cost in the US to purchase and operate the estimated Soviet military forces and programs.*

Soviet defense and space spending measured in dollar terms for 1969 is estimated to be about $65 billion. The comparable US figure for defense and space is about $85 billion, of which some $30 billion is for the Vietnam effort.

Throughout the Sixties the US has outspent the USSR on an estimated dollar-equivalent expenditure basis, but the magnitude and timing of expenditures for the major missions have differed considerably between the two countries. Among the factors influencing these differences has been the US involvement in Vietnam.

Viewed in dollar terms, the Soviets have spent about 3 times as much as the US for the strategic defense mission during the Sixties.

Total strategic attack outlays have been roughly equivalent over the past decade. The US expenditures were substantially greater in the early years, whereas the USSR has outspent the US over the last

few years. The difference in timing of expenditures is a reflection of the difference in timing of major strategic offensive programs. By 1965, the major phases of deployment of Titan, Minuteman, and Polaris systems were essentially complete while the deployments of the counterpart Soviet systems--SS-9, SS-11, and Y class submarine--were in their early stages.

On the other hand, the US has spent 30 to 40 percent more on general purpose and command and general support forces in the Sixties. Vietnam requirements have accounted for a large part of this difference.

The US spent over 25 percent more than the USSR for RDTE&S in the early Sixties. Estimated Soviet spending for 1969 and 1970 is somewhat higher than US spending, primarily because of larger outlays for space programs.

The Economic Setting

The USSR has the second largest economy in the world. This strong economic base has permitted the Soviets to build and maintain a powerful defense establishment.

Each year the Soviet leaders must make very specific decisions about how the available resources will be allotted to claimants for defense and space programs, for economic growth, and for consumer satisfaction. Two primary Soviet objectives--military strength and economic growth--are especially competitive for the same resources. The leadership must consider the fact that current military strength is obtained in part at the expense of economic growth, and therefore that large military programs will reduce the total amount of resources available in the future.

The overall magnitude of the Soviet economy, measured in terms of gross national product (GNP), has grown to a point where it is now about half that of the US. For the past 10 years, the annual rate of growth of Soviet GNP has averaged about 5 percent compared to an average of about 4½ percent for the US.

The structure of production in the two economies, however, is quite different (see Figure 4, page 16). The USSR is unique among industrialized countries in having a highly developed industrial sector side by side with a backward agricultural sector and a relatively primitive trade and service network. This imbalance has resulted from the overriding priority long given to the development of heavy industry in the USSR, particularly to producer goods, at the expense of agriculture and services for the population.

Soviet industrial production as a whole is now almost half that of the US, but the picture is a very mixed one. Production of some producer goods--such as crude steel, coal, cement, and machine tools--is close to or even exceeds that in the US. In contrast, the USSR lags far behind the US in production of consumer goods as well as modern materials such as synthetic fibers and plastics. As a result, the standard of living for the average Soviet citizen is still only about one-third that of his US counterpart.

Soviet industry uses more labor and less capital than US industry, and its overall level of efficiency is perhaps about half that of the US.

The Burden of Defense and Space Programs

There is no simple way of measuring the burden of defense and space spending on the Soviet economy. One measure which is often used is the share of defense and space in GNP. When valued in *ruble* prices, as the Soviets would view it, the current

Figure 4

US and USSR: Economic Indicators, 1968

	US	USSR
AGGREGATE PRODUCTION		
Gross National Product (billion 1968 US $)	866	434
Industrial Production (US=100)	100	45 to 50
INDUSTRY		
Primary energy (million metric tons of coal equivalent)	1,942	1,127
Crude steel (million metric tons)	119	106
THE CONSUMER		
Standard of living (US=100)	100	30 to 33
Passenger car production (thousand units)	8,849	280
Passenger cars in use (units per thousand persons)	412	5
Washing machines in use (units per thousand persons)	270	106
Radios in use (units per thousand persons)	1,496	186
AGRICULTURE		
Grain production (million metric tons)	201	135
Persons supplied per farm worker (persons)	43	6

SECRET

97084 1-70 CIA

defense and space share of GNP is about 8 percent. This is about the same share of GNP that the US devotes to comparable programs.

The lopsided development of the Soviet economy has caused an apparent anomaly that arises when the economic burden of its military effort is considered. Given that US GNP is about twice as large as Soviet GNP, it would appear to be logical to conclude that Soviet defense and space programs, therefore, must be about one-half the size of US programs. This conclusion, however, is incorrect because it fails to take into account the significant structural differences between the economies of the US and USSR caused by the peculiar nature of Soviet economic development described above.

In fact, Soviet defense and space programs are currently about three-fourths the size of the US programs. This relationship is more appropriately determined by pricing the Soviet programs in terms of what they would cost if purchased in the US.

The fact that the USSR supports defense and space programs almost as large as those of the US but with the same share of a much smaller GNP does not mean that the USSR is more efficient than the US in the production of military goods and services--in fact, it is probably less efficient. It does mean that the defense sector of the Soviet economy is more efficient *relative to other sectors of its own economy* than the US defense sector is relative to other sectors of the US economy. For example, although the USSR is efficient in the production of military goods and services, it is notoriously inefficient in the production of consumer goods and services. The US, on the other hand, is an efficient producer in both sectors.

Military Programs--A Diversion of Resources

A more meaningful appreciation of the burden of Soviet defense and space spending can be gained by considering its impact on economic growth than by making the simple GNP comparison. It is clear that the persistent escalation of the military competition with the West has been and continues to be an important factor retarding economic growth.

In an economy as taut as the USSR's, military and space programs represent a direct diversion of resources from other programs. The impact of defense and space programs falls primarily on Soviet industry both by diverting machinery and equipment output from investment programs and by preempting the services of the best managerial, scientific, and engineering manpower.

During the Sixties outlays for purchases of military equipment and for RDTE&S increased more rapidly than expenditures for total defense and space. The work on increasingly sophisticated aircraft, missile, and space equipment skimmed off the best of the managerial, technical, and material resources available in the Soviet economy and certainly retarded investment programs and technological progress in the civilian sector.

In 1969, about 10 percent of the output of heavy industry was devoted to defense and space needs, including more than 20 percent of machinery output. In certain key areas, such as electronics, the share of output channeled into defense and space programs is even larger.

Although the portion of current industrial capacity that is being allocated to the defense sector is large, the share of total research and development resources devoted to defense and space programs is even larger--about 75 percent. The denial of these R&D resources to the civilian economy undoubtedly contributed to the Soviet failure to maintain

during the Sixties the rates of growth in industrial productivity that were achieved in the Fifties.

As noted above, total expenditures for defense and space grew steadily in the Sixties (see Figure 1, page 8). The pattern of growth, however, reveals three distinct periods: substantial increases in 1961-63, a slowdown in growth in 1964-65, and a sharp acceleration in 1966-69. The growth in spending during the 1966-69 period was the most rapid for any four-year period since 1950.

The acceleration in defense spending since 1965 has been accompanied by a shift in traditional resource allocation policies that has led to an increase in the share of resources devoted to consumer-oriented programs. This has taken the form of increases both in current consumption levels and, more important in the long term, in rates of growth of investment in such sectors as housing, consumer services, agriculture, and light industry. The increased allocations to defense and to consumer satisfaction have been achieved at the expense of investment in heavy industry, where the rates of growth of investment have fallen to levels even below the low rates experienced in the early Sixties.

The slowdown in the rate of growth of industrial investment occurred simultaneously with a sharp decline in the return on new investment. It is clear from the Soviet press that the Soviet leadership is distressed by the diminishing effect it has been getting in recent years from the use of its traditional method for achieving rapid growth--the injection of large doses of investment. The rapid decline of productivity growth was a main reason for the economic reform launched by Brezhnev and Kosygin. But the economic reform has yet to prove its worth, and the prospects for its doing so are highly unlikely.

The effects of the economic policies and developments of the past few years were reflected in Soviet economic performance in 1969. The growth of industrial production, for example, was the lowest since 1946. If the trends in investment and productivity in industry continue, the industrial slowdown will become even more pronounced over the next few years.

Effects of a New Round in the Arms Race

A major new round in the arms race almost certainly would entail rates of growth in military expenditures on the order of those of the past four years. It is unlikely that this could be achieved without restraining the growth in consumer programs, a course of action which could be more distasteful to the Soviet leaders than in the past. An arms limitation agreement, on the other hand, which would permit the Soviets to hold military expenditures at present levels, or even reduce them, could present an attractive alternative, at least to some of the Soviet leaders. These economic considerations undoubtedly have influenced the Soviet interest in arms limitation talks.

The Soviet leadership appears to be faced with the need for allocating additional resources to economic growth programs and for improving production efficiency in the near future. If they do not, they will incur some risk that the economy will be unable to achieve enough growth to simultaneously meet its military requirements and maintain current programs aimed at substantial improvement in the lot of the consumer. It must be borne in mind, however, that the Soviet economy is now so large that even low rates of growth mean a very substantial absolute increase in available resources. Thus, it is unlikely that the USSR will be deflected, by purely economic considerations, from those future military programs that it believes are required for its security.

Summary and Conclusions

The Soviets recently announced a planned defense budget for 1970 of 17.9 billion rubles--an increase of just one percent over the 1969 figure. This is a marked departure from the sizable increases announced for the past few years.

The USSR releases almost no other information about its spending for defense and very little about that for space programs, and that which it does release can be misleading. To assist in understanding the size and goals of Soviet defense and space programs and how the USSR allocates its economic resources, a costing method is used which permits detailed estimates of Soviet defense and space spending.

Total estimated Soviet defense and space spending was relatively stable during the Fifties. Increases in expenditures for strategic forces and for RDTE&S were accompanied by large cuts in spending for the general purpose forces.

During the Sixties total expenditures grew steadily--from about 15 billion rubles ($46 billion) in 1960 to almost 22 billion rubles ($65 billion) in 1969 or about 45 percent. Total Soviet spending for defense-related programs in 1970--including RDTE&S, which is funded primarily by the announced expenditures for science--will be over 22 billion rubles ($67 billion), an increase of 3 to 4 percent over 1969. This increase will maintain the steady growth characteristic of the Sixties.

The growing expenditures during the Sixties supported major improvements in strategic force capabilities and modernization of the general purpose forces both by the deployment of new weapons and by growing research and development programs.

Expenditures for RDTE&S programs grew rapidly during the Sixties--about 13 percent per year--and

their share of total defense spending increased from under 20 percent in 1960 to more than 30 percent in 1969. Expenditures for both major strategic missions--offense and defense combined--accounted for more than a quarter of the total, with the spending for the strategic attack forces being consistently higher. Even if the Soviets are looking for an agreement with the US to limit the deployment of strategic weapons, they cannot plan for it at this stage and they almost certainly will continue to develop new systems to keep their future strategic options open.

Despite the high priority the Soviets have placed on developing their strategic capabilities, expenditures for general purpose forces have remained at slightly above the level of the two strategic missions combined. General purpose forces also account for well over half of total military manpower.

The Soviet economy is both large and viable. Measured in terms of GNP, its annual rate of growth over the past ten years has averaged 5 percent and it has reached the point where it is now about half the size of the US economy.

When valued in ruble prices, as the Soviets would view it, the current defense and space share of GNP is about 8 percent. This is about the same share of GNP that the US devotes to comparable programs. A more meaningful appreciation of the burden of Soviet defense and space spending, however, can be gained by considering its impact on economic growth than by making the simple GNP comparison.

Each year the Soviet leaders must make very specific decisions about how the available economic resources will be allotted to claimants for defense and space, economic growth, and consumer satisfaction. The leadership must consider the fact that current military strength is obtained in part at the expense of economic growth and that large military programs

will reduce the total amount of resources available in the future.

The impact of defense and space programs falls primarily on Soviet industry both by diverting industrial output from investment programs and by preempting the services of the best managerial, scientific, and engineering manpower. Developments during the past few years appear to be causing a marked slowdown in the growth of industrial output.

A major new round in the arms race would require increases in defense expenditures that probably could not be achieved without restraining growth in consumer-oriented programs--a course of action which could be more distasteful to Soviet leaders than it has been in the past. An arms limitation agreement could present an attractive alternative, at least to some of the Soviet leaders.

The Soviet leadership appears to be faced with the need for allocating additional resources to economic growth programs and for improving production efficiency in the near future. If they do not, they will incur some risk that the economy will be unable to achieve enough growth to simultaneously meet its military requirements and maintain current programs aimed at substantial improvement in the lot of the consumer. It must be borne in mind, however, that the Soviet economy is now so large that even low rates of growth mean a very substantial absolute increase in available resources. Thus, it is unlikely that the USSR will be deflected by purely economic considerations from those future military programs that it believes are required for its security.